



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,639	08/05/2003	Steven J. Leverette	SEAH/505US	7196
22031	7590	09/21/2004	EXAMINER	
NICK A NICHOLS P O BOX 16399 SUGARLAND, TX 774966399			SALDANO, LISA M	
			ART UNIT	PAPER NUMBER
			3673	
DATE MAILED: 09/21/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Km

**Office Action Summary****Application No.**

10/634,639

**Applicant(s)**

LEVERETTE ET AL.

**Examiner**

Lisa M. Saldano

**Art Unit**

3673

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by White et al (4,793,738).

Regarding claim 1, White et al disclose a single leg tension leg platform wherein the platform floats and the single tension leg anchors the platform to the seafloor (see column 4, lines 10-20). White et al disclose that the single tension leg is made up of one or more tendons that may be steel pipe, composite tubular, metallic cable or synthetic fiber cable or a combination of these materials.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al as applied to claim 1 above in view of Salama et al (4,990,030).

White et al disclose a single leg tension leg platform wherein the platform floats and the single tension leg anchors the platform to the seafloor (see column 4, lines 10-20). White et al disclose that the single tension leg is made up of one or more tendons that may be steel pipe, composite tubular, metallic cable or synthetic fiber cable or a combination of these materials.

Regarding claim 4, White et al disclose that the single tension leg is made up of one or more tendons that may be steel pipe, composite tubular, metallic cable or synthetic fiber cable or a combination of these materials.

However, White et al fail to disclose that the synthetic tendons are coaxially located within steel tendons.

Salama et al disclose a hybrid composite mooring element in combination with supporting floating deep-water offshore structures. The mooring element functions as a tendon. Salama et al disclose an array of the hybrid composite mooring elements (see Fig.1), wherein the hybrid composite mooring elements or tendons 22 include a metallic outer tubular member 26 with a composite or synthetic tubular member 34 disposed coaxially within the metallic outer tubular member 26 (see Fig.2). Salama et al disclose that the composite or synthetic tubular member 34 is constructed of generally longitudinal oriented fibrous materials in a resin matrix.

Regarding claim 3, Salama et al disclose that a preferred embodiment of the composite tubular comprises high modulus carbon fibers in an epoxy matrix.

Art Unit: 3673

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tendons of White et al with composite structure, including coaxially located steel and synthetic tendons, as taught by Salama et al, because White et al disclose the combination of steel pipe, composite tubular, metallic cable or synthetic fiber cable for use as tendons for a floating platform.

5. Claims 5-9 is rejected under 35 U.S.C. 103(a) as being unpatentable over White et al as applied to claim 1 above in view of Phelan et al (US2002/0170792A1).

White et al disclose a single leg tension leg platform wherein the platform floats and the single tension leg anchors the platform to the seafloor (see column 4, lines 10-20). White et al disclose that the single tension leg is made up of one or more tendons that may be steel pipe, composite tubular, metallic cable or synthetic fiber cable or a combination of these materials. More specifically, White et al disclose the need to restrain low frequency horizontal motions, surge/sway and yaw (see column 3, lines 10-20 and column 4, lines 10-20).

However, White et al fail to explicitly disclose damping force means for inhibiting resonance motions.

Phelan et al disclose a cable stay damper band and method of use for reduction of fluid induced cable vibrations in structures such as an off-shore oil platform (see Fig.19).

Regarding claims 5-7, Phelan et al disclose that each cable stay damper band may be either 1) passive acting solely in response to fluid flow or 2) active in anticipation of cable stay vibrations or oscillations (see page 4, paragraph [0053], lines 8). Phelan et al disclose that the

Art Unit: 3673

damper bands force or channel the fluid flow over a circular cross-sectional shape, which inhibits lift, and therefore damps the cable stay oscillations (see abstract).

Regarding claim 8, as broadly claim by the applicant, Phelan et al disclose addition of damper rings at a spacing of approximately two to four time the cable stay diameter to eliminate vibrations. The specified spacing is tuned with respect to a particular frequency associated with the cable/tendon. Phelan et al further disclose that passive retrofitting of an existing cable is likely to be effective to virtually eliminate vibrations or oscillations.

Regarding claim 9, as broadly claimed by the applicant, Phelan et al disclose means such as a processing stations, accelerometer, power and communications lines that sense oscillations, vibrations or other movement in a cable stay or tendon. In response, all of the active damper bands on the cable stay are energized (see paragraph [0072]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of White et al to incorporate damping force means, as taught by Phelan et al because White discloses the need to restrain restrain low frequency horizontal motions, surge/sway and yaw in a single leg tension leg platform. Phelan et al disclose damping force means for use in structures such as an off-shore oil platform. The use of cable stay damper bands either in passive or active means provides a way to restrain and minimize undesired motions within an offshore platform.

Art Unit: 3673

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Blenkarn (3,517,517) and Cottrell et al (6,439,147) disclose features that are pertinent to the present application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms



HEATHER SHACKELFORD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600